

APPENDIX I: Sample T-REX and T-HERPS Runs for the Cyfluthrins.

T-REX (Cyfluthrin):

Chemical Name:	Cyfluthrin
Use	Cotton
Formulation	0
Application Rate	0.057 lbs a.i./acre
Half-life	35 days
Application Interval	3 days
Maximum # Apps./Year	10
Length of Simulation	1 year
Variable application rates?	no

Endpoints			
Avian	Bobwhite quail	LD50 (mg/kg-bw)	2000.00
	Bobwhite quail	LC50 (mg/kg-diet)	5000.00
	Mallard duck	NOAEL(mg/kg-bw)	0.00
	Bobwhite quail	NOAEC (mg/kg-diet)	250.00
Mammals		LD50 (mg/kg-bw)	16.20
		LC50 (mg/kg-diet)	0.00
		NOAEL (mg/kg-bw)	5.40
		NOAEC (mg/kg-diet)	50.00

Dietary-based EECs (ppm)	Kenaga Values
Short Grass	106.24
Tall Grass	48.69
Broadleaf plants	59.76
Fruits/pods/seeds	6.64
Arthropods	41.61

Summary of Risk Quotient Calculations Based on Upper Bound Kenaga EECs

Upper Bound Kenaga, Acute Avian Dose-Based Risk Quotients													
Size Class (grams)	Adjusted LD50	EECs and RQs											
		Short Grass		Tall Grass		Broadleaf Plants		Fruits/Pods / Seeds		Arthropods		Granivore	
		EEC	RQ	EEC	RQ	EEC	RQ	EEC	RQ	EEC	RQ	EEC	RQ
20	1440.86	120.99	0.08	55.46	0.04	68.06	0.05	7.56	0.01	47.39	0.03	1.68	0.00
100	1834.29	69.00	0.04	31.62	0.02	38.81	0.02	4.31	0.00	27.02	0.01	0.96	0.00
1000	2591.00	30.89	0.01	14.16	0.01	17.38	0.01	1.93	0.00	12.10	0.00	0.43	0.00

Upper Bound Kenaga, Subacute Avian Dietary Based Risk Quotients										
LC50	EECs and RQs									
	Short Grass		Tall Grass		Broadleaf Plants		Fruits/Pods/ Seeds		Arthropods	
	EEC	RQ	EEC	RQ	EEC	RQ	EEC	RQ	EEC	RQ
5000	106.24	0.02	48.69	0.01	59.76	0.01	6.64	0.00	41.61	0.01

Size class not used for dietary risk quotients

Upper Bound Kenaga, Chronic Avian Dietary Based Risk Quotients										
NOAEC (ppm)	EECs and RQs									
	Short Grass		Tall Grass		Broadleaf Plants		Fruits/Pods/Seeds		Arthropods	
	EEC	RQ	EEC	RQ	EEC	RQ	EEC	RQ	EEC	RQ
250	106.24	0.42	48.69	0.19	59.76	0.24	6.64	0.03	41.61	0.17

Size class not used for dietary risk quotients

Upper Bound Kenaga, Acute Mammalian Dose-Based Risk Quotients													
Size Class (grams)	Adjusted LD50	EECs and RQs											
		Short Grass		Tall Grass		Broadleaf Plants		Fruits/Pods / Seeds		Arthropods		Granivore	
		EEC	RQ	EEC	RQ	EEC	RQ	EEC	RQ	EEC	RQ	EEC	RQ
15	35.60	101.29	2.84	46.42	1.30	56.98	1.60	6.33	0.18	39.67	1.11	1.41	0.039
35	28.81	70.00	2.43	32.09	1.11	39.38	1.37	4.38	0.15	27.42	0.95	0.97	0.034
1000	12.46	16.23	1.30	7.44	0.60	9.13	0.73	1.01	0.08	6.36	0.51	0.23	0.018

Upper Bound Kenaga, Chronic Mammalian Dietary Based Risk Quotients										
NOAEC (ppm)	EECs and RQs									
	Short Grass		Tall Grass		Broadleaf Plants		Fruits/Pods/Seeds/Large Insects		Arthropods	
	EEC	RQ	EEC	RQ	EEC	RQ	EEC	RQ	EEC	RQ
50	106.24	2.12	48.69	0.97	59.76	1.20	6.64	0.13	41.61	0.83

Size class not used for dietary risk quotients

Upper Bound Kenaga, Chronic Mammalian Dose-Based Risk Quotients													
Size Class (grams)	Adjusted NOAEL	EECs and RQs											
		Short Grass		Tall Grass		Broadleaf Plants		Fruits/Pods / Seeds		Arthropods		Granivore	
		EEC	RQ	EEC	RQ	EEC	RQ	EEC	RQ	EEC	RQ	EEC	RQ
15	11.87	101.29	8.53	46.42	3.91	56.98	4.80	6.33	0.53	39.67	3.34	1.41	0.12
35	9.60	70.00	7.29	32.09	3.34	39.38	4.10	4.38	0.46	27.42	2.86	0.97	0.10
1000	4.15	16.23	3.91	7.44	1.79	9.13	2.20	1.01	0.24	6.36	1.53	0.23	0.05

T-HERPS (Beta-Cyfluthrin):

Chemical Name:	Beta_Cyfluthrin
Use	Ag Buildings
Formulation	0
Application Rate	0.191 lbs a.i./acre
Half-life	35 days
Application Interval	3 days
Maximum # Apps./Year	10
Length of Simulation	1 year

Endpoints			
Avian	Bobwhite quail	LD50 (mg/kg-bw)	No data
	Bobwhite quail	LC50 (mg/kg-diet)	No data
	Bobwhite quail	NOAEL(mg/kg-bw)	No data
	Bobwhite quail	NOAEC (mg/kg-diet)	269.00

Dietary-based EECs (ppm)	Kenaga Values
Short Grass	355.99
Tall Grass	163.16
Broadleaf plants/sm Insects	200.24
Fruits/pods/seeds/lg insects	22.25
Small herbivore mammals	975.05
Medium herbivore mammal	357.29
Large herbivore mammal	130.93
Small insectivore mammals	60.94
Medium Insectivorous mammal	22.33
Large Insectivorous mammal	8.18
Small terrestrial phase amphibians	12.19
Medium terrestrial phase amphibians	7.23
Large terrestrial phase amphibians	4.29

Summary of Risk Quotient Calculations (Chronic) Based on Upper Bound Kenaga EECs

Upper Bound Kenaga, Chronic Terrestrial Herpetofauna Dietary Based Risk Quotients										
NOAEC (ppm)	EECs and RQs									
	Broadleaf Plants/ Small Insects		Fruits/Pods/ Seeds/ Large Insects		Herbivore Mammals		Insectivore Mammals		Amphibians	
	EEC	RQ	EEC	RQ	EEC	RQ	EEC	RQ	EEC	RQ
269	200.24	0.74	22.25	0.08	357.29	1.33	22.33	0.08	7.23	0.03

Size class not used for dietary risk quotients